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52059 7590 01/03/2007 INVITROGEN CORPORATION C/O INTELLEVATE P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER BARTON, JEFFREY THOMAS	
			ART UNIT 1753	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/056,050

Applicant(s)

CABILLY ET AL.

Examiner

Jeffrey T. Barton

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-14, 18-21, 50, 53-56, 58-60, 62-65, 67-69, 71, 73, 75, 77, 79-82 and 85-100 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims pending in the application are 1-9,12-14,18-21,50,53-56,58-60,62-65,67-69,71,73,75,77,79-82 and 85-100.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 September 2006 has been entered.

### ***Status of Rejections Pending Since the Office Action of 28 November 2005***

2. The rejection of claim 77 as unpatentable over Pace in view of Monthony et al is maintained.
3. All other rejections are withdrawn due to Applicant's amendment.

### ***Claim Objections***

4. Claim 92 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of the claim from which it depends. Applicant is required to cancel the claim or amend the claim to place the claim in proper dependent form. Claim 92 repeats precisely the same limitation as claim 93.
5. Claims 1, 3, 4, 14, 54, 55, 60, 64, 69, 71, 75, and 81 are objected to because of the following informalities:

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- a. Claim 1, line 5 recites “the top wall comprises one or more apertures”; lines 7-8 recite “a first region comprising the one or more apertures”; and lines 12-13 recite “the first region, second region, and third region are located between the top wall and the bottom wall”. If the first region is located between the top wall and the bottom wall, how can it include apertures that are located in the top wall? A simple correction might be to change the recitation in lines 7-8 to read “a first region adjacent the one or more apertures”. The claim is treated as requiring the first region to be adjacent the aperture(s).
- b. In claim 3 at lines 2 and 3, there are two recitations of “electrochemical ionizable conducting material”. Amendment of these to read “electrochemically ionizable conducting material” is recommended.
- c. In claim 4 at line 2, “electrochemical ionizable conducting material” is recited. Amendment of this to read “electrochemically ionizable conducting material” is recommended.
- d. In claim 14 at line 2, “two or more row” is recited, although it appears “two or more rows” was intended.
- e. In claim 54 at line 2, “ionizable the metal” is recited, although it appears “ionizable metal” was intended.
- f. In claim 55 at line 2, “ionizable the metal” is recited, although it appears “ionizable metal” was intended.
- g. In claim 60 at line 2, “two or more row” is recited, although it appears “two or more rows” was intended.

- h. In claim 64 at line 2, "electrochemically ionizable the metal" is recited, although it appears "the electrochemically ionizable metal" was intended.
  - i. In claim 69 at line 2, "two or more row" is recited, although it appears "two or more rows" was intended.
  - j. Claim 71, line 6 recites "the top wall comprises one or more apertures"; lines 8-9 recite "a first region comprising the one or more apertures"; and lines 13-14 recite "the first region, second region, and third region are located between the top wall and the bottom wall". If the first region is located between the top wall and the bottom wall, how can it include apertures that are located in the top wall? A simple correction might be to change the recitation in lines 8-9 to read "a first region adjacent the one or more apertures". The claim is treated as requiring the first region to be adjacent the aperture(s).
  - k. Claim 75 is unclear. Amendment to read: "The method of claim 71, wherein the anode comprises an electrochemically ionizable conducting material and further comprising the step of degrading the anode by the application of the electrical field, thereby releasing ions required for maintaining the electrical field." is recommended.
  - l. In claim 81 at line 4, "electrochemical ionizable conducting material" is recited. Amendment of this to read "electrochemically ionizable conducting material" is recommended.
- Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 56 recites "The disposable cassette of claim 94", although claim 94 is directed towards an electrophoresis method. Claim 56 is treated herein as claiming a method according to its recited limitations.

8. Claim 79 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no positive antecedent basis for "the degradation of the at least one electrochemically ionizable anode" in line 4 of the claim.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-4, 62, 71, 85-87, 91, and 94-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci in view of Elson et al.

Regarding claim 1, Tocci discloses a disposable electrophoresis cassette (Figures 1-6) comprising an enclosed chamber having top (5), bottom (4), side (2) and end (3) walls as claimed; wherein the bottom wall is contiguous and the chamber comprises three regions as claimed (e.g. narrow central section as the first region with



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reservoir regions on either side); wherein the chamber comprises an electrophoresis area (e.g. central section); a gel matrix within the chamber comprising an electrolyte (Column 3, lines 8-18); and an anode and cathode disposed in respective sealed regions 6 and 7. (Foil electrodes 8, in contact via semi-solid buffer; Column 2, lines 9-30)

Regarding claim 2, Tocci discloses all regions being sealed before and during electrophoresis. (e.g. Figures 4 and 5 - electrode 8 folds out, then is held in position for electrophoresis by the lid after sealing; also support medium 12 disposed on lid provides buffer at the time of use; Column 3, lines 8-24; Column 4, line 55 - Column 5, line 4)

Regarding claims 3, 4, and 62, Tocci discloses metal foil electrodes. (Column 6, lines 10-11) Any metal can be electrochemically ionized under certain conditions, including electrophoresis, given a high enough voltage and choice of/lack of solvent, etc.

Regarding claim 71, Tocci discloses a method of using his cassette comprising loading samples and applying an electrical field. (Column 3, lines 54-67)

Regarding claims 85 and 86, either reservoir of Tocci (6 or 7) corresponds to the instant second or third region, and either could clearly contain the anode or cathode.

Regarding claims 87 and 91, the electrodes 8 are embedded in the reservoir gel, which transmits the electric field, therefore reading on the claimed "electrophoresis gel matrix". (Figures 3-5)

Regarding claims 94-100, the top wall of Tocci is sealed to the side walls and end walls during operation, thus sealing the second and third regions (Figures 3-5; Column 4, lines 55-57; Column 5, lines 1-4 describe how electrode tabs are folded out such that the lid will be placed on the chamber while allowing current to be applied to the cassette), and the bottom wall has several planar sections. (Figure 3)

Tocci does not explicitly disclose a unit comprising apertures for sample loading or wells disposed below the apertures.

Elson et al disclose a gel cassette (Figure 1) wherein samples are applied into wells formed in the gel through apertures (21) provided in the cover of the gel cassette. (Abstract; Column 2, lines 25-36)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the unit of Tocci by providing a row of apertures in the cover for sample loading, as taught by Elson et al, because Elson et al teaches the advantages of this design, in that it allows for a range of sample volumes and allows samples to be applied without opening the instrument. (Column 1, lines 36-38; Column 4, lines 5-14)

13. Claims 5, 6, 63, 64, 75, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci and Elson et al as applied to claims 1-4, 62, 71, 85-87, 91, and 94-100 above, and further in view of Pace.

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Tocci and Elson et al disclose an electrophoresis unit as described above in addressing claims 1-4, 62, 71, 85-87, 91, and 94-100.

Neither Tocci nor Elson et al explicitly require any specific metal for the electrodes.

Pace discloses an electrophoretic device with copper or silver electrodes.  
(Column 7, lines 36-39)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the device of Tocci by using copper electrodes, as taught by Pace, because it would reduce the cost of manufacture compared to the more standard platinum or gold electrodes for a disposable electrophoresis unit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the device of Tocci by using silver electrodes, as taught by Pace, because it would reduce the cost of manufacture compared to the more standard platinum or gold electrodes for a disposable electrophoresis unit, while still being less reactive than most metal alternatives. (e.g. Cu)

Furthermore, given that Tocci did not specifically suggest any metal, it would be a matter of choice to a skilled artisan to select an appropriate electrode material from those known in the art of electrophoresis, such as copper or silver.

Specific to claims 75 and 88, if copper or silver is used for the anode, metal ions will preferentially form rather than water hydrolysis products and will be present in the gel matrix, meeting the limitations of these claims.

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14. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci and Elson et al as applied to claims 1-4, 62, 71, 85-87, 91, and 94-100 above, and further in view of Eibl et al.

Tocci and Elson et al disclose an electrophoresis unit as described above in addressing claims 1-4, 62, 71, 85-87, 91, and 94-100.

Neither Tocci nor Elson et al explicitly require any specific metal for the electrodes.

Eibl et al disclose an electrophoretic device with aluminum electrodes. (Column 3, lines 30-37)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Tocci by using aluminum electrodes, as taught by Eibl et al, because it would reduce the cost of manufacture compared to the more standard platinum or gold electrodes for a disposable electrophoresis unit.

Furthermore, given that Tocci did not specifically suggest any metal, it would be a matter of choice to a skilled artisan to select an appropriate electrode material from those known in the art of electrophoresis, such as aluminum.

Further addressing claims 7 and 9, although Eibl does not specifically address the oxygen-absorbing abilities of aluminum, this is an innate property of the metal and would allow the gel to remain substantially oxygen-free, even if water electrolysis did occur.

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15. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci and Elson et al as applied to claims 1-4, 62, 71, 85-87, 91, and 94-100 above, and further in view of Flesher et al.

Tocci and Elson et al disclose an electrophoresis unit as described above in addressing claims 1-4, 62, 71, 85-87, 91, and 94-100.

Neither Tocci nor Elson et al explicitly require any specific metal for the electrodes.

Flesher et al disclose an electrophoretic device with palladium electrodes.  
(Column 5, lines 29-34)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Tocci by using palladium electrodes, as taught by Flesher et al, because they are highly resistive to corrosion.

Furthermore, given that Tocci did not specifically suggest any metal, it would be a matter of choice to a skilled artisan to select an appropriate electrode material from those known in the art of electrophoresis, such as palladium.

Further addressing claims 19 and 21, although Flesher et al do not specifically address the hydrogen-absorbing abilities of palladium, this is an innate property of the metal and would allow the gel to remain substantially hydrogen-free, even if water electrolysis did occur.

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16. Claims 12-14 and 67-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci and Elson et al as applied to claims 1-4, 62, 71, 85-87, 91, and 94-100 above, and further in view of Day.

Tocci and Elson et al disclose a combined electrophoresis unit as described above in addressing claims 1-4, 62, 71, 85-87, 91, and 94-100 above.

Specific to claim 13, Elson et al also disclose these sites being disposed in a row. (Figure 1)

Neither Tocci nor Elson et al explicitly disclose spacing the apertures to conform with intervals between tips on a loader (Claims 12, 24, and 41), or apertures arranged in a stagger format. (Claims 14, 26, and 43)

Day discloses an electrophoresis gel with sample wells spaced to match the spacing of standard multichannel pipettes. (Page 5, line 24 - Page 6, line 23) He also discloses staggered arrangement of wells. (e.g. Figure 4)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the combination of Tocci and Elson et al by spacing the sample application slots taught by Elson to match the 9 mm spacing of multichannel pipettes, as taught by Day, because Day teaches the economy of time and labor in sample loading that such an arrangement allows. (Page 5, line 30 - Page 6, line 4)

It would also have been obvious to one having ordinary skill in that art to provide multiple, staggered rows of sample wells, as taught by Day, because Day teaches that

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this arrangement allows a much more efficient use of the gel space in that many more samples can be run in a single gel. (Page 5, line 10 - Page 6, line 4)

17. Claims 53, 56, 65, 79, 80, 81, 82, 89, 90, 92, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci and Elson et al as applied to claims 1-4, 62, 71, 85-87, 91, and 94-100 above, and further in view of Monthony et al.

Tocci and Elson et al disclose a combined electrophoresis unit as described above in addressing claims 1-4, 62, 71, 85-87, 91, and 94-100 above.

Neither Tocci nor Elson et al explicitly disclose any particular buffer solution.

Monthony et al disclose electrophoresis methods, one of which involves using a Tris/Glycine buffer for separations at pH 8.9. (Table in Column 4, Example 1)

It would also have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tocci by using the buffer system disclosed by Monthony et al, because Tocci left this choice up to the skilled artisan using his invention, and one having ordinary skill would be able to select an appropriate buffer for a given separation from those known in the prior art. In addition, Monthony teach that electrophoresis of human serum on a gel using this buffer resulted in "sharply separated bands" (Column 6, lines 33-35), which would clearly be desirable to a skilled artisan.

Applicant did not invent Tris/Glycine and the other buffers claimed here. A property not seen in the prior art of record is claimed here, but the discovery of a new property of a known material does not necessarily patentably distinguish the claim. See

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*Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999) and *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). There are no structural distinctions between the claimed invention and the prior art as combined above.

Specific to claims 79, 81, 89, 92, and 93, since Applicant teaches that the Tris/Glycine buffer is a composition that meets the limitations of these claims (Note claim 80, for example), this combination meets all positively recited limitations of these claims.

18. Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci, Elson et al, and Monthony et al as applied to claims 53, 56, 65, 79, 80, 81, 82, 89, 90, 92, and 93 above, and further in view of Pace.

The reasoning for this rejection parallels that given in paragraphs 13 and 17 above.

19. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci, Elson et al, and Monthony et al as applied to claims 53, 56, 65, 79, 80, 81, 82, 89, 90, 92, and 93 above, and further in view of Eibl et al.

The reasoning for this rejection parallels that given in paragraphs 14 and 17 above.



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20. Claims 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocci, Elson et al, and Monthony as applied to claims 53, 56, 65, 79, 80, 81, 82, 89, 90, 92, and 93 above, and further in view of Day et al.

The reasoning for this rejection parallels that given in paragraphs 16 and 17 above.

21. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pace in view of Monthony et al.

Regarding claim 77, Pace discloses a method comprising the steps of applying an electrical field to a gel, through copper or silver electrodes. (Column 7, lines 36-39; Column 9, line 38 - Column 10, line 20) Given a high enough voltage, the release of anode ions instead of water electrolysis would be inherent.

Pace does not explicitly disclose any particular buffer to be used in his apparatus for the separations, calling for only an "appropriate buffer". (Column 10, lines 13-14)

Monthony et al disclose electrophoresis methods, one of which involves using a Tris/Glycine buffer for separations at pH 8.9. (Table in Column 4, Example 1)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Pace by using the buffer system disclosed by Monthony et al, because Pace left this choice up to the skilled artisan using his invention, and one having ordinary skill would be able to select an appropriate buffer for a given separation from those known in the prior art. In addition, Monthony teach that

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electrophoresis of human serum on a gel using this buffer resulted in "sharply separated bands" (Column 6, lines 33-35), which would clearly be desirable to a skilled artisan.

In addition, if copper or silver is used for the anode, metal ions will preferentially form rather than water hydrolysis products. It is the Examiner's position, therefore, that the claimed releasing and inhibiting steps will inherently be present once this method is performed.

The Applicants did not invent Tris/Glycine and the other buffers disclosed as having the ability to inhibit ion migration. A property not seen in the prior art of record is claimed here, but the discovery of a new property of a known material does not necessarily patentably distinguish the claim. See *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999) and *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

### ***Double Patenting***

22. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

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be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

23. Claims 18 and 73 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15 and 32 of U.S. Patent No. 6,379,516 in view of Tocci and Elson et al. The only differences between instant claim 18 and claim 15 of U.S. Patent No. 6,379,516 is the specific wall relationship of the cassette and the presence of apertures and wells. Likewise, the only difference between instant claim 73 and that of Claim 32 of the '516 patent is the recitation of the structure described above. However, the relationship between the walls of the cassette is conventional in the art, as shown by Tocci, and would have been obvious as the most convenient design of a gel cassette (i.e. basically rectangular gel compartment), and Elson et al teach the benefits of providing apertures in the top wall corresponding to wells in the gel, for facilitating sample loading. Therefore it would have been obvious to modify the device of claim 15 and method of claim 32 of U.S. Patent No. 6,379,516 by providing such structure.

24. Claim 77 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 30 of U.S. Patent No. 6,379,516 in view of Monthony et al. It would have been obvious to one having ordinary skill in the art to use known buffers, such as a Tris/Glycine buffer taught by Monthony et al, in the methods claimed here, because Cabilly et al require no particular buffer, and Monthony teaches

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that Tris/Glycine provides sharp resolution of protein bands, as described above. The inhibition effect would be as claimed.

### ***Response to Arguments***

25. Applicant's arguments filed 26 September 2006 have been fully considered but they are not persuasive.

The bulk of Applicant's arguments are moot, given the new grounds for rejection presented here, but they are addressed here where they are relevant to the new rejections.

Applicant argues against Tocci teaching sealing of any regions of the cassette. (2<sup>nd</sup> full paragraph of p. 14 of Remarks) The Examiner maintains that the prevention of substantial evaporation by provision of a lid very clearly reads on such a limitation, broadly recited.

Applicant argues against any combination of Tocci with Pace, arguing that they are fundamentally different technologies. The Examiner's position is that capillary electrophoresis and gel electrophoresis cannot reasonably be considered "fundamentally different" by any standard. Any skilled artisan would have recognized that considerations for selection of electrodes in either configuration would be the same or similar, and the obviousness of selection of an electrode metal is maintained.

Applicant argues that Tocci teaches away from other choices of metal, in that he teaches platinum or nichrome electrodes. Teaching one way of making a device or performing a method does not constitute teaching away from any modification. Given

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reasonable motivation for a modification, such changes in structure are properly considered obvious. The Examiner maintains that such motivations are provided.

Applicant argues against the combination of Tocci with Elson, arguing that there would be no benefit to the combination, and that Tocci teaches away from the modification in that his lid is present "to avoid substantial evaporation". The Examiner maintains that the convenience of the apertures taught by Elson et al would clearly provide a desirable benefit to one having ordinary skill in the art, as described in the rejection above. Furthermore, the presence of a series of small holes for sample application would not reasonably be expected to destroy the function of the lid in preventing "substantial evaporation". The function of the lid would not be destroyed by this modification. The motivation is valid, and the rejection must therefore be maintained.

Applicant argues that the combination of Pace with Monthony does not meet all limitations of claim 77. The examiner maintains that all limitations will inherently be met in this combination, for the reasons cited above.

### ***Conclusion***


26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey T. Barton whose telephone number is (571) 272-1307. The examiner can normally be reached on M-F 9:00AM - 5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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